June Group

REPORT ON THE JUNE GROUP.

by
G. Harold Grant

The June Group consists of the Iron Knob, Olga, June, Helem, and Amazon mining claims. They are located in the Quatsino Mining Divison on Vancouver Island, and about 5 miles inland from half way up the East side of the S. E. Arm of Quatsino Sound. A good pack trail 5 miles long leads from the camp to the shore of the arm and from there it is only 3 miles to Yreka, the calling point for the C. P. R. steamers and where the nearest P. O. is located. (See Map). page 8.

The country is rough, high rocky hills rise steeply from the shores of the sound. These are cut by many valleys and in places there are considerable intervening tracts of low land. Vegetation is dense, especially in the low lands and there is an abundance of the best timber. Cedar, Spruce, Hemlock, Fir and Balsam being most plentiful. Much decayed vegetation and soil are found nearly everywhere, excepting on the higher hills sides and river bottoms, and therefore outcrops of rock are rare and at present it is almost impossible to give any detailed description of the Geology of the region.

Briefly, however, the rocks of the region are Pre-Cretaceous, probably belonging to the Triassic or the Upper Palezoic. They consist of much altered and folded sedimentary rocks together with large areas of eruptives.

In the immediate vicinity of the June Group a large belt of the former consisting of highly crystalline limestone, occurs to the north of the claim. Granite and Felsite occur to the south; and it is along the contact between the Limestones and the Felsites, and in the Felsites that the Orebodies occur. This contact is inearly in a due E. and W. line, roughly the general rela tionship is shown in the accompanying sketch map, page 8.

These Ore deposits occurring as they do, along the contact of the Lime and the Eruptives, should be classed as Contact Deposit of the well known Cananea or Boundary Types. The Ores are Copper and Iron Sulphides associated with considrable Magnetic Oxide of Iron, probably contemporaneous in their formation and due to Magnetic Segregation and Contact Metamorphism. That is the ores were first concentrated in a molten mass of rock deep beneath the surface of the earth, then erupted with the Felsite

flow, along the contact of the Limestone and the Granite. The Granite itself is probably a previous intrusion from the same rock magma. The action of the molton rock on the lime probably had something to do with the deposition of the mineral in large lenses of concentrated masses, and the action of surface and possibly underground waters have wrought further change.

The deposit is strongly marked on the surfaceby a wide oxidation zone which shows in continuous out-croppings on a line of low hills running nearly East and West. This zone is over 300 ft. wide in places and extends as an unbroken exposure from the west and line of the June to the Amazon Creek a distance of 3800 ft. Throughout this distance enough work has been done in the form of numerous open cuts,so,as together with the many natural exposures to thoroughly proving the continuity of the deposit. On the Iron Knob, Olga and most eastern 700 ft. of the Amazon but lettle work has been done and because of the heavy covering of soil,and as there are no outcrops exposed, it is impossible to say for certain how far the deposits extend into these claims. They are in direct line with the contact, however, and similar deposits (of less extent than the June) have been found and located both east and west of the Group.

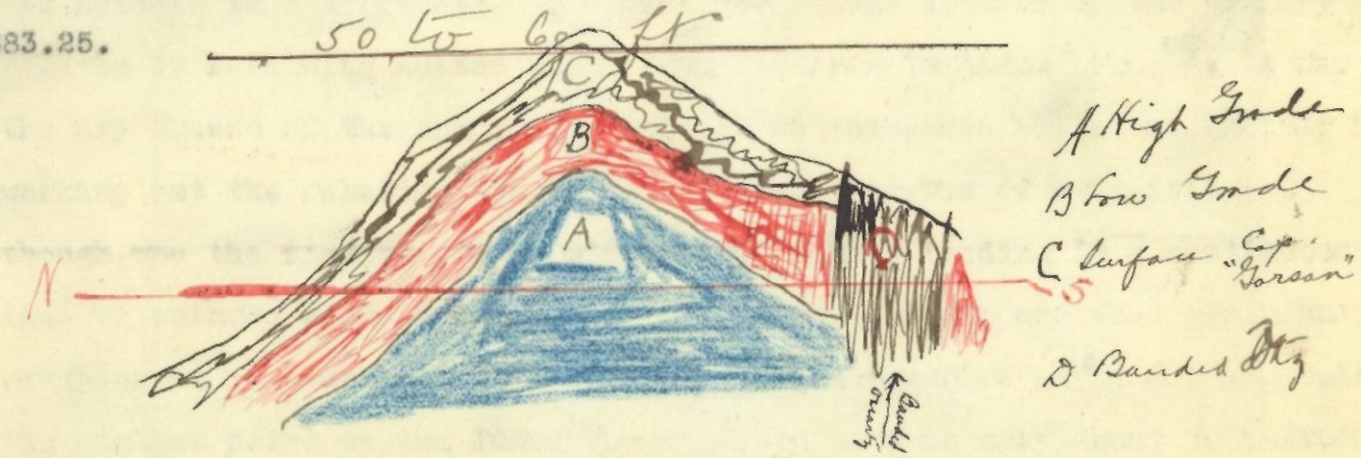
The lateral boundries of the deposit are in no place well defined, except that the mineralization is intensly concentrated over a very wide zone always showing up a hundred and in places over three hundred feet in width, but never with both boundaries clearly defined, as always one or the other is covered up with soil or debris. In this type of deposit clear out walls are not usually found, and I expect on development it will be shown that mineralization entends well into the limestone, as in a much similar deposit at the Marble Bay Mine on Texada Island; or may be as in the Cananea District of Mexico, the values will be in,or closely associated with the latter eruptive (here a felsite and in the Cananea region a porphyry,rocks very similar in composition), About 100 ft. from the eastern end of the June Claim and on the north side of the oxidized moneral zone some very fine copper sulphides are found well in the limestone and only a foot or so from the surface.

In Big Open Cut on the June 400 ft. east from the west end-line,the deposit is exposed for over 50 ft. in width and to a depth of 30 ft., here

Chalcopyrites and Bornite are found in considerable quantities as segregations and in the form of seams and bands in the magnetite and felsite. The magnetite seems to carry the most evenly distributed values, but not enough work has been done on the property to warrant any assertion as to where the highest values will be found. An enormous quantity(many thousands of tons) of low grade ore is exposed right on the surface, this is of the very best kind of smelting ore (for treatment) being as near as I can judge absolutely self-fluxing, there being plenty of lime, iron and silica in the ores themselves. This low grade ore is on the surface,and has an extent of nearly 3800 ft. in length, by from 100 to 300 ft. in width, and extended at least to a depth of from 10 to 20 ft. Its value is of course low (due to oxidation and leaching of surface waters) but from an average of some twenty assays taken along or close to the surface throughout the length of the deposit I am confident the avrage value (net) is about Five Dollars ($5.00) per ton in the capping.

Where depth of 20 to 30 ft. is obtained as in the big cut on the June,the grade of ore greatly improves; from the bottom of this cut some 300 tons of ore of shipping grade has been taken,a roughly selected average sample (taken by grab method)giving Gold .22 oz, Silver 2.6 oz, and Copper 4.7% (Wet) with 15¢ copper this gives total values of $19.80.

An average sample taken from sorted and picked high grade ore from the same dump, and consisting of Chalcopyrites,Bornite and some Magnetite, went Gold .48 oz. Silver 4.5 oz. and Copper 23.8% (wet) giving a total of $83.25.



N. & S. SECTION. BIG OPEN CUT ON THE JUNE.

Several other essays were made from selected samples along the foot of the cut,values being recorded of from $30.00 to $50.00. These high valuesmust not be over estimated as they were taken from carefully

selected samples; they are valuable, however, in showing that some fine ore occurs with slight depth, and as a guide to what may be expected with further exploration, they also go to prove that there is considerable shipping ore in sight. An ideal North and South Section of the June Open Cut is given above. N S is the floor of the Cut. a. the area from which the high grade ore has been taken, this being banded magnetite and copper sulphides together with some felsite highly impregnated with chalcopyrites and bornite. C, is the leached iron cap of little value, B, is the less oxodized portion of the ore body, and a good average sample from the north side of the foot of the cut went Gold.04 oz, Silver .80 oz, and Copper 1.7% a total of $6.30. D. is banded quartz exposed on the south side of the cut; it has the appearance of a quartz vein, but has not been traced continuously to any extent, though several outcroppings of quartz are found along the deposit.

An essay from this quartz has shown only traces of value on the surface, it may however become more valuable with depth. This quartz is very interesting Geologically, as taken in connection with some exposures of diabase porphyry dikes, it tends to stengthen the supposition that the ores are closely related to Magmatic Segregation. The dikes and quartz being the last products of volcanic action in the region. I may also add that the metamorphic action of the eruptives on the limestone is distinctly shown by the frequently occurrence of such secondary minerals as Garnet and Epidote in the deposit. The best geological section of the country is given by following Amazon Creek from Victoria To Alice Lake. As it was the dry season of the year I was able to do this, and helped me greatly in working out the relationship of the rocks. What was of most interest though, was the finding of the mineralized zone extending in a continuous line of outcrop along the surcace to the river canon, and then again outcropping at the bottom of the river, cutting a depth of about 500 ft. below the highest point on the June. The exposure here is only about 30 ft. wide but was mostly covered up by drift and debris brought down by the stream. Two or three shots had been put in a few days previous and showed the usual iron cap with some goodlooking Pyrrhotite.

The value of showing lies, however, in its proving considerable depthto the formation,rather than in promising looking mineral.

The amount of development work already done on the properties consists of the big open cut on the June, and nemerous other small cuts, which have been put in on the June, Helen and Amazon Claims in order to prove the continuity of the deposit. A fair pack trail has been built from the S. E. Arm to the main camp,which is almost on the boundary between the Olga and June claims, this trail I understand has cost already about $2000.00 and will take about $500.00 to put in first class condition. Two good houses,a stable, wood-shed and a blacksmith shop have been built, and everything is complete and in good order to go on with development work.(Using hand labor alone). The company also has a good boathouse at the beach and a 20 ft. boat, and pack horse for transporting supplies from Yreka to the camp.

The total amount of money spent so far in developing the properties is about $10,000.00 an expenditure more than sufficient to allow of their being Crown Granted; which therefore can now be done any time after proper surveys by a Provincial Land Surveyor.

It is not my intention in this report to speculate at any length on the Future Development and Operating of these properties.

The chief difficulty will be in transporting the ore from the mine to salt-water; and will necessitate the building of a railroad, but this should not be attempted till much more development work has been done, and the mine in shape to make regular shipments of comparative high grade ore.

There is a possible R. R. route to the present landing on the S. E. Arm by way of the trail, the grades are rather heavy,however, and a careful survey will be becessary before adopting this route. I am told a good route (as sketched in map)lies a little further to the north, and would say, from the general lay of the land that this is quite possible, but cannot say for sure,as I did not explore this region. As to cost of road-bed I am imformed by competent authorities, it can be built for less than $2,000.00 per mile, that, by not doing any grading, and the heavy timber cut in right of way,being used to form a sort of rough crib-work to support the track.

The cost of road will depend much on character of shipments as a

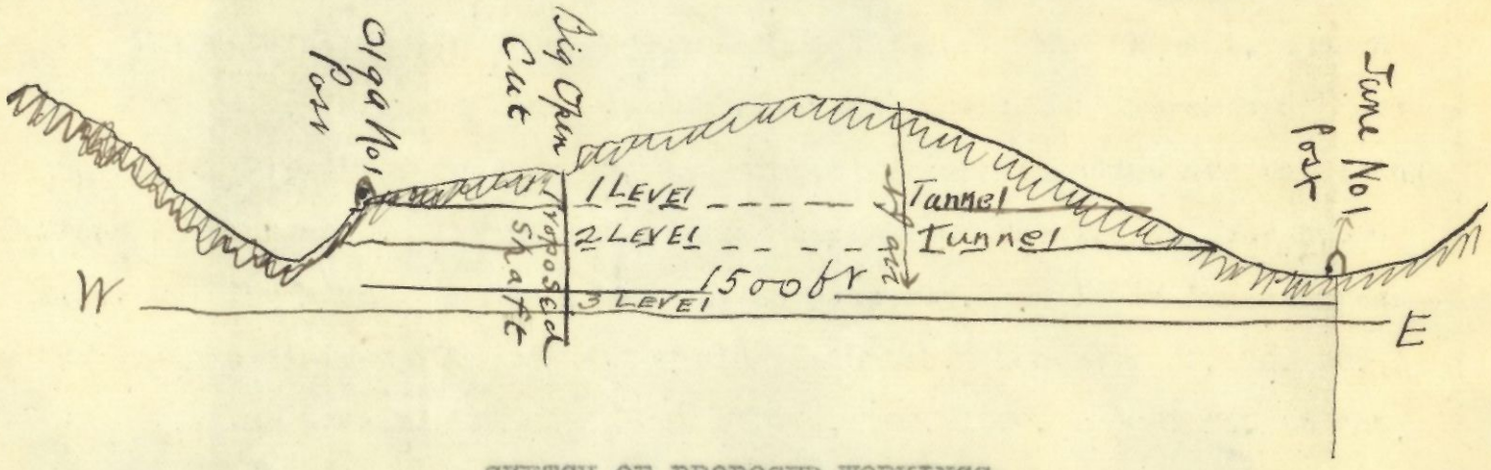
large tonage of ore shipped to salt water, would require a more costly road, than one built to only bring in coke and supplies for a smelter at the mine.

The natural facilities for operating are good. The climate, though wet during the Fall and Winter, is healthy and devoid of extremes of heat and cold. Plenty of good water, and timber for all purposes are to be fun found in abundance. A fine water power capable of developing over 5,000 H. P. all the year round is found on the property, this is in Amazon Creek which has a minimum flow of 20,000 miners inches. Heads of 30, 50, 70, & 125 ft. being possible in distances of 200, 700, 1500, & 5000 ft. At the present landing on the S. E. Arm there is plenty of water for the largest ocean going vessels, and good facilities for building docks etc. Supplies can be cheaply secured from Victoria and Pugit Sound Cities; and resonable freight rates on ore shipments obtained to Tacoma or Crofton Smelters.

At present developmnt work should be proceeded with as rapidly as possible. To do this economically power should be installed, as the rock is hard, and hand work would be somewhat more expensive than machine. Steam power at present is almost out of the question, as heavy machinery could not be brought over the trail. An electric plant using water power could be taken in sectionally, however, and a complete plant (Motor, Dynamo, Hoist Pump, Blower, Drills (Elec. or Air with Compressor), Transmition Line etc), erected and put in running order at a cost of about $10,000.00 for a 50 H. P. outfit; this would be for everything of the best and new. Second hand machinery would be just as good for the purpose, and with careful selection using rebuilt dynamos etc. it would be possible to get a serviceable plant for about half the above figure. If power for drilling only were wanted, a small gasoline engine and dynamo could easily be installed, in fact a maker of electric (the Box) drills, supplies these outfits complete and I have been informed they are quite satisfactory. Development work should be carried out by sinking a shaft from the bottom of the big cut, and driving levels and cross-cuts each 75 to 100 ft. The cross-cuts should be driven at least as far as the limestone on the North, and into the felsite till out of mineralization on the South. There are several localitieswhere tunnels might be driven as shown in accompanying

sketch, these would gain fair depth, and could be carried on at the same time as the shaft work, eventually joining the workings.

N. & W. SECTION OF THE JUNE CLAIM ALONG STRIKE.



SKETCH OF PROPOSED WORKINGS.

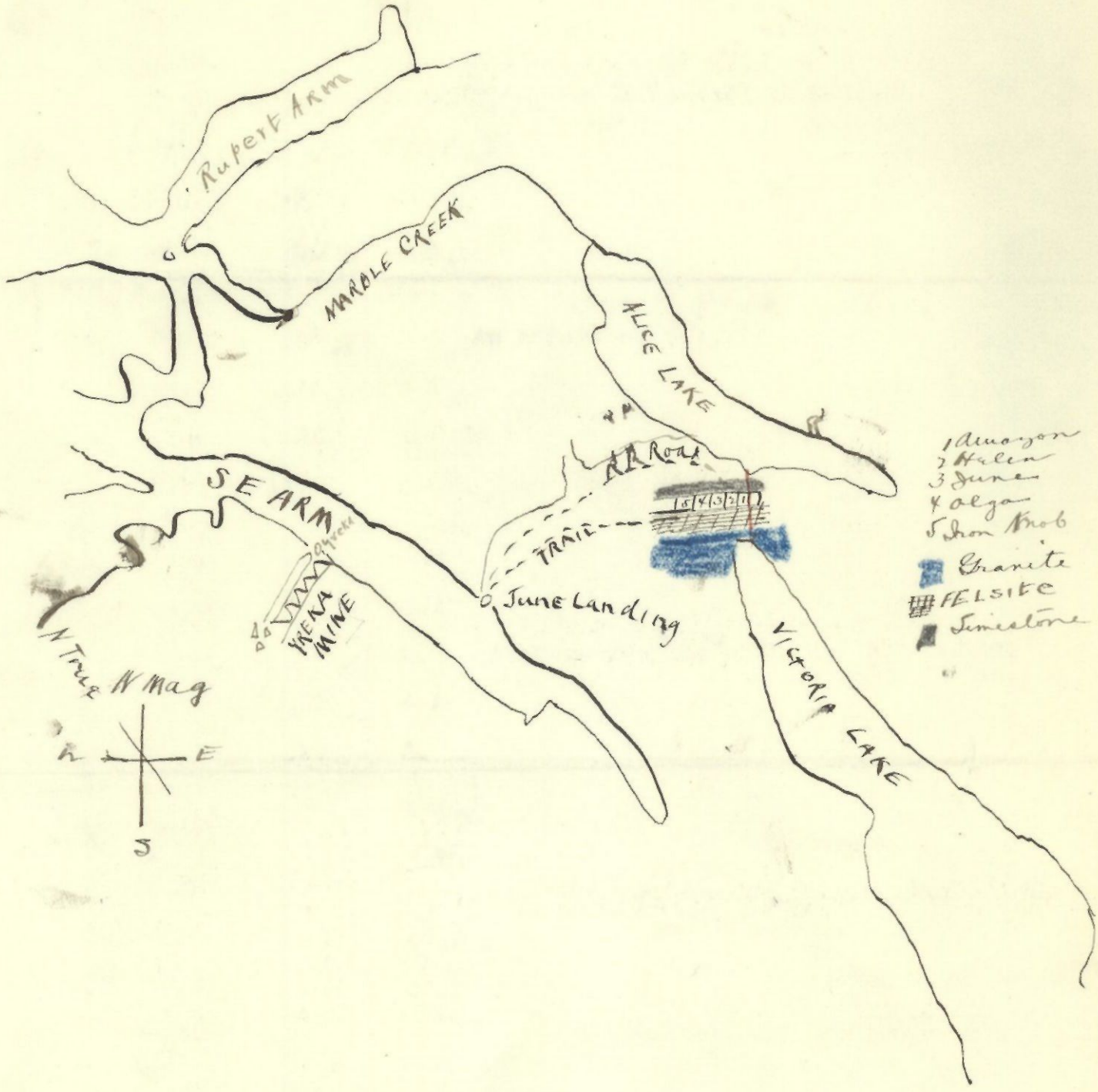
The tunnel work would be considerably the cheapest, and best adapted of any underground system, to working the upper levels; but would not alone explore the ground quickly enough, especially that ground immediately under the rich showing of the Big Open Cut. The cheap working of the property on a large scale will probably demand the adoption of the open pit method as used in the Iron Mines of the Lake Superior region, Open cut by these methods are sometimes worked to a depth of 400 or 500 ft., and from the general topography and the nature of the deposit I believe this property to be well adapted to this method of working.

The cost of working such a property as this can at present be only roughly given. If a smelter were built at or near the mine, and operations carried on to an extent of about 1,000 tons per day, the total cost of mining, smelting and marketing the product I believe could be brought down to about $4.00 per ton. In the Boundary region an ore averaging in values Gold.09 oz Silver.66 oz. and Copper 1.6% is treated at a total cost of about $3.66 (See report of Minister of Mines for B. C. 1902) Gfanby Mines.

In conclusion will state that the June Group is in a most favorable Geological Formation, has one of the largest surface showings I have ver seen or heard of, and is favorably situated for successfully mining and treating the ore.

Signed G Harold Grant

Dec 1903



Quatsino Sound
Showing June Group

AVERAGE SAMPLES FROM POP SHOTS ON SURFACE.

		$ Gold	$Silver	Copper %	
No.	1.	5.60	.60	8.2.	
	2.	.40	.48	2.4	
	3.	6.40	1.08	12.1	
	4.	.20	.36	1.2	An Average of $12.92
	5.	trace	.24	1.3	
	6.	1.20	.42	1.0	
	7.	.80	1.68	3.8	
	1.	1.20	.46	3.3	
	2.	.60		2.2	
	3.	1.80	1.04	3.	Average samples open cut June claim.
	4.	.80	.20	4.3	
	5.	2.	.15	2.	
	1.	12.00	1.77	32.06	
	2.	1.60	.36	8.9	
	3.	1.60	.36	12.	Picked samples from Big Cut or quarry.
	4.	2.40	.46	24.8	
	5.	44.80	1.04	12.2	
	1.	7.60	2.09	6.2	
	2.	1.40	2.31	21.6	
	3.	1.80	1.87	15.9	Samples from several tons shipping ore
	4.	13.60	3.19	18.1	from open cut or quarry.
	5.	1.	2. 09	16.8	
	6.	7.40	1.98	16.2	
	1.	14.40	5.60	17.4	
	2.	17.60	7.30	27.6	
	3.	16.80	8.75	28.3	
	4.	32.40	7.70	24.7	Selected samples from Quarry
	5.	43.20	8.59	37.9	an average of $139.56
	6.	29.	15.10	56.4	
	7.	88.	7.15	32.83.	

U. S. B. M.